

INCOME AND ITS DETERMINATION

by

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INTRODUCTION

"Revenue is the aggregate of values received in exchange for the goods and service of an enterprise."¹ The commonest form of revenue is usually produced by sales of commodities. The concept of income has been interpreted in several different ways, and as the concept has been influenced by several accounting rules, principles and conventions that are not always logical or consistent, income will never be subject to precise measurement.

Purpose

The purpose of this report is to deal with the problems involved in determining as accurately as possible the amount of income for a particular accounting period. Consequently, the subject will be discussed from various viewpoints. The first step will be to define and elucidate the concept of income, and to show the significance and importance of determining the amount of net income for a particular accounting period. The terms "revenue," "cost" and "expired costs," which are most important in determining the amount of net income will be elaborated. The most important point in measuring the income is to determine when the revenue is realized, and at what point recognition is appropriate.

Procedure

The four generally accepted bases of revenue recognition, sale, production, cash and appreciation will be explained. After explaining these, the fundamental problem of matching costs with revenue will be discussed.

¹Morton Backer, Handbook of Modern Accounting Theory. New York: Prentice Hall, Inc., 1955, p. 210.

Attention in the latter part of the report will be given to special problems involved in income accounting, and to pointing out certain special revenues as well as expenses which should be separated from income accounting.

Objective

The basic object of this report is to throw light on problems involved in income accounting and to show the methods of handling them.

INCOME - CONCEPT AND SIGNIFICANCE

A basic concept in accounting is the concept of income. It is assumed that accountants know the procedures for measuring the amount of income earned or accrued by a business enterprise during its normal operating cycle. As accountants are human beings, the amount of net income of a corporate enterprise may vary considerably according to the views and habits of the accountant who measures the income. Some accountants will charge items to surplus or to reserves which others would charge to the income account, or they may credit items to surplus which others would credit to the income account.

If this is the case, what should be the conception of business income which can be generally adopted by the accountant? There are a number of alternative points of view from which the income of the business enterprise may be defined.

Income, as it is quite significant for management, may be defined from the point of view of management as such. To management there is no distinction between the funds of the proprietor and borrowed capital. The function of management is to utilize all funds at his disposal in the most efficient way. To management, net income consists of gross revenue less operating charges before any deductions have been made on account of interest or other distributions to those who have contributed capital to the undertaking.

Business income is essentially the return of capital, the earnings of capital, regardless of its source. This view is particularly important where management is completely different from ownership, where management is employed by the owner or owners.

Income may be defined from the viewpoint of periodic return to all those who furnish significant amounts of capital to the enterprise. The income is the earning on long-term investments regardless of the character of the investment. The income, determined from this standpoint, will be identical to the income determined from the point of view of management, but the conceptions are different.

From the standpoint of the individual recipient the income of an enterprise can be measured by the stream of dividends or other disbursements to owners or investors. From the accounting viewpoint this concept is quite unreasonable. The business enterprise is a separate entity; it is different from its owners or investors and so business income cannot be gauged in terms of the flow of current funds, or other property, to those who have equities in income. The periodic income of the enterprise need not be equivalent to the periodic drawings by or return to those who are entitled to participation in such income.

Sometimes income is presented in terms of profit and loss.

A profit results from the sale of a commodity at a price in excess of its purchase price or cost of production. The term 'income,' while often used in the same sense as 'profit,' relates more accurately to the return realized from labor, from a profession, from invested capital, or from property.¹

"The net increase in capital arising during a period of time from its use in business in connection with managerial ability is called profit.

¹C. F. Rittenhouse, "Elements of Accounts," McGraw-Hill. From an article, "An Effort to Define Business Income," Accounting Review, Oct. 1952.

Similarly the net decrease is called loss."¹

The American Accounting Association has defined the concept of income in "The Revision of Accounting and Reporting Standards for Corporate Financial Statement" as follows:

The realized net income of an enterprise measures its effectiveness as an operating unit and is the change in its net assets arising out of (a) the excess or deficiency of revenue compared with related expired cost and (b) other gains or losses to the enterprise from sales, exchanges, or other conversions of assets. Interest charges, income taxes, and true profit-sharing distributions are not determinants of enterprise net income.²

Income may be either positive or negative. If operations are successful, there is a net income and a corresponding increase in net assets; if they are unsuccessful, there is a decrease in net assets caused by a net loss.

The terms "Realized" and "Net Assets" are interpreted as follows in the above definition.

A change in an asset or a liability is considered to be realized in accounting when it has become sufficiently definite and objective to justify its recognition in the accounts. This recognition may be based upon an exchange transaction, on established trade practices, on the terms of a contract which seems certain to be performed, or on the stability of banking and commercial relationships.

Net assets refers to the amount by which total assets exceed total liabilities; thus assets minus liabilities equals owner's equity; therefore net assets equals owner's equity. If the net assets of a business increase as a result of operations, the business has earned a net income; if they decrease, it has incurred a loss.

¹H. T. Scovill, "An Effort to Define Business Income," Accounting Review, October 1952, p. 458.

²Published by the American Accounting Association, Columbus, Ohio, 1957, p. 5.

A discussion by Sanders, Hatfield and Moore¹ also derived the same conclusion.

(1) Income is the increment in wealth arising from the use of capital wealth, and from services rendered.

(2) Income in the narrow sense is the owner's share of this increment. This is the income which it is sought to define as "net income" in the income statement.

Thus it is convenient to think of capital as a store of wealth existing at any one time, and to think of income as the flow of increments in that wealth yielded by the activities of the business.

Additions to the wealth of the business resulting from further investments by the owner, or further contributions by lenders, are increases of capital and not income. Similarly restatements of the money value of the same capital goods, and actual increases in them, are increases in capital in the narrow sense, and are not income.

Income normally arises from the sale of goods or services for amounts greater than their cost.

There are various viewpoints from which the income concept is defined. The accountant, keeping all these generally accepted definitions in mind, should determine the business income of the enterprise.

In modern accounting, income is determined for the fiscal year of the business enterprise. This fiscal year is quite short compared to the life of the business enterprise. The transactions done by the enterprise are

¹Thomas Henry Sanders, Henry Rand Hatfield, and Underhill Moore, A Statement of Accounting Principles, New York, American Institutes of Accountants, 1938, pp. 11-12.

not uniformly completed at the end of the fiscal year and also the assets of the business enterprise have a much greater useful life than the fiscal year. Because of these facts, the determination of income requires the use of estimates and the exercise of judgment.

The effectiveness of an operating unit can be measured only by the net income of the enterprise. Income is the most significant single index of the degree of success which has attended operations during the past period. The trend of income is a very sensitive barometer of the trend of financial conditions.

As the success or failure of a business is the result of the efforts of management, it is apparent that income is a valuable gauge of the efficiency of management. This is particularly important in the case of corporations where owners or investors are not in immediate control of operations but employed persons (management) administer the business. The amount of income enables management to evaluate its past accomplishments and to plan its future activities. It also becomes an important instrument in negotiations between labor and management.

The amount of determined income is, of course, of marked significance to the owners or investors. Income measures the increase in equities and hence the increase in the wealth of those who have invested their capital in the enterprise.

In addition to the stockholders and management group, the individual employee, labor organizations, creditors and government agencies are also interested in financial statements by which the amount of net income is determined. Each group is interested for its own specific reasons.

Under the prevailing tax structure the amount of tax liability depends primarily on earning power, and this fact is no doubt in part responsible

for the emphasis currently given to problems of income reporting.

The financial policy as well as the dividend policy of the enterprise is always influenced by the size of the income flow from period to period. Eventually, income reporting affects a multitude of decisions relating to the business enterprise.

There are four main factors which stress the importance and significance of and need for income determination.

(1) Income provides the best measure of success in the management of a business enterprise in a competitive economy.

(2) The amount of income determines corporation dividend policy as dividends can generally be paid only out of income.

(3) Income is a guide to investment policy. Prospective investors seek to maximize their return on investment, and their search will be guided by the income earned on existing investments.

(4) Income has become universally accepted as a good measure of capacity to bear the burden of taxation.

REVENUE, COST AND EXPIRED COSTS

The basic theory of proper determination of income is based on statements prepared by management in order to report to the owners of the business. In order to prepare proper financial statements the definition of the concepts Revenue, Cost and Expired Costs is necessary.

Revenue

Revenue means an in-flow of assets but that does not necessarily mean that all in-flows of assets are revenue. The increase in market price of the goods or natural increase are in-flows of assets but cannot be considered as revenue. Also any capital transaction of in-flow of an asset which causes an increase in liabilities is not revenue. Revenue is a generic term for the amount realized by a sale or rent, interest or services earned. The amount realized may consist of assets received or liabilities liquidated. It can also be the gain from advantageous settlement of liabilities. Revenue does not arise from a gift. Revenue is a gross concept and generally in accounting, income is viewed as a net amount.

If the accounts are kept on an accrual basis, this term designates additions to assets, which do not increase any liability, nor represent the recovery of an expenditure, and the cancellation of liabilities without a corresponding increase in other liabilities or a decrease in assets. The same definition applies in its entirety to those cases where the accounts are kept on a cash basis except that the additions must be cash only.¹

The term has also been explained in a slightly different manner. The basic principle provides for recognition of revenue at the time of delivery

¹M. L. Plye, "Income Determination and the Non-Profit Institution," Accounting Review, October 1957, p. 612.

or otherwise the performance of services, or the use of resources of one enterprise by another, provided there is concurrent acquisition of assets or a reduction of liability.

Finally, the revenue of any business enterprise represents the flow of funds from the clients, tenants, or customers for the product, either commodities or services, of the business enterprise. Revenue represents the accumulation of resources and the deductions resulting from the operations of the enterprise are not considered in determining this amount.

This accumulation of resources does not take into consideration funds provided by creditors or investors, and gains from sale of securities, real estate, or other assets.

Cost

When goods or services are acquired by a business enterprise, they become the assets of the enterprise—they are the resources which will be used in the future. The amount paid for the goods and services acquired or the amount payable, is their cost.

"Cost is the amount of bargained price of goods or services received or of securities issued in transactions between independent parties."¹

Cost relates to expenditure. An expenditure may be a cash payment or may not. It may be just the incurring of an obligation to make a future payment for a benefit received. Cost measures this expenditure. Because of this, cost is sometimes used for expenditure. In fact cost does not always have a definite meaning.

¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1955, p. 24.

Expired Costs

Expired costs are those having no discernible benefit to future operations. The basic questions concerning cost expirations are the time of recognition and the determination of amount.

Expense is the cost of assets or part of assets deducted from revenue in the measurement of income. The peculiarity of expense is that it is the expired cost of the goods or services which are directly or indirectly related to a given fiscal period of the enterprise. Expense arises through a current expenditure of cash, a total or partial expiration of asset cost, or the incurrence of a liability. Expenses always have a direct or indirect association with the production of revenue.

Loss is expired cost which does not benefit the revenue producing activities of the enterprise. Loss is a deduction from revenue which does not have a traceable association with the production of revenue. Losses are chargeable directly to other income or to retained income. Net loss is the excess of total expense over total revenue.

In conclusion we can say that at the time goods and services are consumed, the cost becomes an expense of that accounting period. If the cost is chargeable to future period, it is transferred to some other asset account like finished goods inventory or prepaid expense. And finally, if the goods become chargeable directly to retained income, or to "other income" then their cost is treated as a loss.

WHEN IS REVENUE REALIZED?

When is income actually earned? What is the most reasonable evidence or test of realization? Upon what occasions, under what circumstances, should credit entries be registered in the revenue account?

As indicated previously, revenue is the aggregate of values received in exchange for the goods and services of an enterprise and as a basis for revenue recognition in the accounts, realization is in general more important than the process of earning. In a certain sense we can say that revenue is earned during the entire process of production. Costs accumulate during the productive activities of the enterprise. But it is difficult to determine the amount of revenue before the completion and disposition of the goods or services. It may be said that revenue is earned during the entire process of production but usually the amount remains uncertain until the process is completed and the product transferred to a customer.

It is sometimes considered that revenue is entirely unearned until the product is completed and sold. Here, too much stress is given to the final state of production that is delivery, and selling activities are considered more important than preparation for sale. This concept does not take into consideration the question of proper allocation of costs nor the homogeneity of costs in their economic significance.

In 1957, The Committee on Concepts and Standards Underlying Corporate Financial Statements of the American Accounting Association defined realization as follows:

The essential meaning of realization is that a change in an asset or liability has become sufficiently definite and objective to warrant recognition in the accounts. This recognition may rest on an exchange transaction between independent parties, or on established trade practices,

or on the terms of a contract performance of which is considered to be virtually certain. It may depend on the stability of a banking system, the enforceability of commercial agreements, or the ability of a highly organized market to facilitate the conversion of an asset into another form.¹

The term "realization" is defined in quite a different way by other accountants. They have used the term in connection with revenue and income, and in terms of the receipt of a particular type of asset.

"realize:.... to exchange for property which at the time of its receipt may be classified as, or immediately converted into a current asset."²

In any specific instance the test for realization is found in the question, "Will the relinquishment of merchandise result in cash or in the creation of an asset which, in the normal course of events, will be converted to cash, i.e., does any further selling have to take place in order to obtain cash."³

"Realization" is a different term from "earnings". Revenue is considered realized when there is sufficient evidence of cash receipts or receivables, or other new liquid assets. As an illustration, income realized by the corporation but not yet distributed as dividends can be considered as a type of earned but not realized revenue from the standpoint of stockholder's private accounts.

Revenue normally provides the principal source of funds for the continuance and expansion of the business. It is the source of funds from which

¹"Accounting and Reporting Standards For Corporate Financial Statements, 1947 Revision", Accounting Review, October 1957, p 538.

²Eric L. Kohler, A Dictionary for Accountants, Englewood Cliffs: Prentice Hall, Inc., 1952, p. 354.

³Stephan Gilman, Accounting Concepts of Profit, New York: The Ronald Press Co., 1939, p. 102.

distributions in terms of dividends to stockholders are made possible without impairing the invested capital. Revenue represents the efficiency of management and growth potentialities of the enterprise. It is apparent therefore that proper recognition of revenue is essential to good accounting.

"The recognition of revenue turns upon a determination of the precise point in the income producing cycle when its realization can be considered to have occurred and its admissibility into the accounts would have conformed to acceptable standards."¹

¹Morton Backer, Handbook of Moderning Accounting Theory, New York: Prentice Hall, Inc., 1955, p. 239.

REVENUE RECOGNITION

The Sale As a Basis of Revenue Recognition

"For the great majority of business enterprises, the sale basis of measuring revenue clearly meets the requirements of accounting standards more effectively than any other possible basis."¹ A sale is a contractual agreement to transfer title to property in return for some consideration. The point of sale possesses many desirable attributes for the recognition of revenue. Revenue should be evidenced or supported by cash or other assets and the sale is a completed transaction generally characterized by a physical transfer of goods or services and receipt of cash or other assets in exchange.

The activities of most of the concerns manufacturing or dealing in goods, are directed toward the sale of those goods. The sale is a most conclusive step and at the same time most significant from a financial viewpoint. In a sale, two parties negotiate and fix a price which eliminates all further speculations of the market. The goods will be segregated as the customer's property for future delivery. The sale finalizes all expired costs in production as well as in distribution, and permits their association with revenue for the purpose of determining income.

Sometimes when an order is received, it is referred to as a sale. Maybe it is true that from management's viewpoint the order is more significant than delivery which is considered the most conclusive step of a completed sale. Many times when the order is received, goods may be in the process of

¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1955, p. 53.

manufacture, or not even in the production stage. If this is the case, revenue cannot be considered realized because the major costs are still remaining to be incurred. In fact the order does not affect the balance sheet of the company, that is, neither assets nor equities are affected by an order as long as the contract is wholly unperformed by both parties. So even if the possibility of cancellation of orders was ignored, it would be quite impractical to recognize revenue in terms of orders.

"Where the product is in the form of services, the act or process of furnishing the service to the customer, the "sale" of service provides a basis for revenue recognition."¹ When services are sold on credit, the customer's account is debited and services revenue is credited for the amount of services sold. Sometimes when services are provided in a series or in a continuous stream throughout the period of the engagement, separate invoicing is not possible, i.e., in an engineering company engaged in drawing plans and supervising the building of a hydroelectric plant. In this case revenue may be recognized in terms of billings prepared for periods of time or stages of construction.

The revenue earned in the form of interest from investment can be treated as service revenue. Interest is the price paid for the use of funds represented by bonds, notes or other securities. Any accrual of such interest is recognizable through proper entries. Dividends are the same kind of revenue, that is, investment revenue. The only difference between stock investments and other kinds of investments is that revenue from stock investments is not considered to be recognizable prior to declaration of dividends

¹W. A. Paton and W. A. Paton, Jr., Corporation Accounts and Statements, New York: The MacMillan Company, 1955, p. 280.

by the issuing company.

From a legal standpoint, the passing of title is the essence of a completed sale. "The intent of the parties, either specifically expressed or evidenced by their actions, determines when the title has been transferred."¹ Accordingly a sale may occur at different points such as the confirmation of an order, the receipt of an advance payment or the actual delivery of the goods. Hence, it is up to the accountant whether to consider a confirmation of an order as a completed sale or not. The passing of title is really a highly technical matter. There are a series of events and it is difficult to determine when the sale is actually effected. The act of invoicing, as mentioned before, is the most appropriate occasion for the recording of the sale. But in all special situations the accountant must exercise great care in preparing reports which show property and property rights. They should be in accordance with legal conditions.

In unconditional sales contracts, according to the legal viewpoint, the title passes and revenue is realized when the contract of sale is executed. From an accounting standpoint this is not satisfactory because nothing has been collected on the contract.

The accounting profession is in general agreement that the sale constitutes the most logical basis available for the recognition of revenue. The act of invoicing together with actual delivery is an appropriate occasion to recognize the revenue. "In most fields, moreover, the sales basis of measuring revenue is more satisfactory from the standpoint of procedure than

¹Morton Backer, Handbook of Modern Accounting Theory, New York: Prentice-Hall, Inc., 1955, p. 239.

any alternative policy available."¹ But the conventional sale basis has some limitations and there are other possibilities which have merit in special circumstances.

The objections to the sale basis are mainly due to its conservatism. The sale basis does not recognize revenue until goods are finished and transferred. Actually the whole process of production is important. Costs are incurred throughout the operations. So revenue should be accrued during the stages of production. The argument against this point is that it is not feasible to measure revenue according to progress reports. The value of the goods depends on market prices and is not usually fixed as in some cases of "cost plus" contracts. The market is of varying nature and revenue cannot be determined or recognized until a valid and definite agreement is made with customers.

Another objection usually raised is to the use of credit sales as a basis of revenue recognition. The point is that collection costs and bad debt expense may be substantial in credit sales. Account receivables are not as good as cash and revenue based on this kind of asset does not represent funds which can be readily disposed of. There are some adjustments which can take care of this objection. A careful estimate of bad debt losses can be made and revenue can be recorded on that basis. The other costs can be considered as after costs and can be deducted from the current revenue. Account receivables are not literally equivalent to cash and hence revenue based on account receivables does not represent disposable funds, but as account receivables are current assets and turn into cash during the fiscal period the relation of account receivables to cash resources is not decisive.

¹Rufus Wixon, Editor, Accountant's Handbook, New York: The Ronald Press Company, 1961, pp. 5-2.

The question of goods which are returnable from the customers can be dealt with in the same manner by making proper adjustments based on past experience. For other costs like bookkeeping and other clerical charges, costs of servicing products and costs of replacing defective items which are associated with the sale, the usual procedure is to charge expenses and credit some form of "reserve" account with the estimated amount. The adjustments for after costs are a part of the process of measuring the revenues applicable to a particular period on a sale basis. The current effect of this adjustment will be that the charge for the estimated amount of costs becomes directly deductible from revenue and the corresponding credit becomes an offset to outstanding receivables and thus reduces the gross amount to a net amount to be realized.

Cash Basis

The income statement represents the operating situation for a particular accounting period by showing revenue and expense accrued in the fiscal period just past. Revenue includes all amounts earned during the period, and all commodities and services consumed in the period constitute the total expense. There is a vast difference between an income statement and a statement of cash receipts and disbursements. A statement of cash receipts and disbursements is merely a statement of cash received and paid out during the year - an itemized cash account.

This statement of cash receipts and disbursed is generally used in municipal accounts. A treasurer's report is a statement of cash received and paid out during the year or in other words, an itemized cash account. This is accepted in lieu of a revenue and expense statement. The budget for the fiscal year is prepared from the statement of cash receipts and disbursements. Information provided by a statement of cash receipts and disbursements is not

the same as that provided by an income statement. "Cash disbursements and expenses are not synonymous terms. Payments are often made for permanent improvements which are not expenses."¹ Cash disbursements may be made in one year to cover the expenses of a previous year or may be made for later periods and are therefore not expenses of the current year. Similarly, the expenses for a particular year may not be current cash disbursements and will be paid in later periods or might have been paid in the past year or years. Some expenses such as depreciation of durable property, do not involve expenditures for the year at all and so there is no cash disbursement. Similarly the terms revenue and cash receipts are different.

Usually, some people suppose that the amount of net profit determined in a particular period measures liquid funds available to the business enterprise and their availability for distribution. The income element is very commonly understood as being represented by cash. It is assumed that the income balance and the cash balance are substantially equivalent if not the same thing. On some occasions, even the accountant thinks in the same direction and believes in similar conceptions. These views are quite unsound. A credit balance in the accounting reports represents net income. Income is a credit balance, an equity, while cash is an asset, a debit balance. The amount of net income measures the increases in the income bearing equities which have occurred during the fiscal year. It may happen in some case that there is some definite quantitative relationship between income and cash but that should not be taken as proof, the two elements income and cash are definitely independent. The relation, whatever it is, between these two terms is the relation between the equities in general and assets in general.

¹W. A. Paton and R. A. Stevenson, Principles of Accounting, New York: The MacMillan Company, 1922, p. 225.

The basic difference in cash and income can be pointed out more clearly by tracing the transactions and procedures followed in determining the net revenue figure. There is a fundamental and significant difference between these transactions and transactions which affect the cash balance. Many of the transactions which affect cash are quite outside the various operations which involve income determining entities. Cash may be received because of borrowings, capital investments, or the selling of securities owned by the enterprise. Cash may be disbursed to buy new assets, to pay off long term debts and for other purposes which have no direct relation to income accounting.

The transactions which affect income determination are concerned with basic operating and selling activities of the company. The procedure is to fix the values of the product by determining the cost of commodities and services consumed in producing the product sold. These values when determined are charged to expense accounts and credit will be given to appropriate asset and cost accounts. The revenue side is credited with the gross amount which has been charged to the customer's accounts or the cash account. Then finally the revenue and expense accounts are combined and the amount of net income is determined. These transactions and procedures do not directly affect cash. Cash is involved only when it is received directly for sales. The amount which is eventually collected from accounts receivable is used to pay the current liabilities like accounts payable or it is used in the purchase of more inventories and other things. At the end of the fiscal period the operations of the enterprise may be very successful but the cash balance may be small or it may be that the cash balance is very favorable but income is small or nil. So it can be said that there is no direct relation between

cash and income. The cash and income will be the same and identical only when all sales are for cash and goods or services are purchased and acquired only for cash. There can be no fixed asset costs, no payment made to creditors and no money borrowed from other sources; and all these conditions are practically impossible.

As mentioned previously the income figure does not represent any particular asset or cash but is related to the total assets like most equity items. Income measures the total increase in assets and it may be found in terms of current assets like accounts receivable, inventories and cash, but in many cases the funds arising from income are invested in fixed assets. It may happen that in some fiscal year the income statement shows a favorable amount of income while the total assets in the balance sheet has not been increasing or was even diminished. This can be due to the payment of current or long term liabilities from the funds arising from income.

It is true that the receipt of cash prior to delivery of the product does not provide a proper basis for revenue recognition, but it is possible to use the collection of cash following delivery as a test of revenue realization and recording. The application of the cash basis instead of the conservation sale basis is found in concerns making sales on the installment plan. "The vendor may recognize the sale when the goods are delivered or elect to account for the income on the "installment" basis, whereunder income is recognized as the installments are collected."¹

Installment selling the long term receivables are not recognizable as assets or evidence of revenue. The reason behind this is that revenue implies

¹Rufus Wixon, Editor, Accountant's Handbook, New York: The Ronald Press Company, 1961, pp. 5-2,5-3.

an inflow of highly liquid assets while these long term receivables cannot be considered liquid. The title to the goods remains with the seller so that in case of default he can recover the goods. The "after costs" are adjusted according to sale revenue. Revenue is credited only with the amount received in the form of cash. The costs, including billing and collection cost, are matched with revenue on the basis of collections.

A point which supports the cash basis, is that it is not unduly conservative.

With collection of cash from the customer, it may be urged, the transaction is generally closed, and the amount of revenue fully validated. Upon receiving cash the vendor has obtained the means of making expenditures for any purpose, including payment of dividends. Revenue in the form of cash, in other words, is realized to the utmost; no succeeding event renders the revenue fund more definite and more available.¹

Other applications of the cash basis are generally found in enterprises furnishing services rather than goods, industries such as transportation. The furnishing of services constitutes a definite act and the amount is usually collected before furnishing the services or at the same time the services are furnished. In these cases the basis of collection of cash is also an act of furnishing services which is reasonable for revenue measurement. However, in cases of engineering companies, where the nature of services is complex and the cost cannot be definitely judged and the contract may cover a longer time than the company's fiscal period, the cash basis does not provide proper recognition of revenue. Sometimes even the amount which is to be charged to a customer's account cannot be determined as the nature and complexity of the work cannot be determined.

¹W. A. Paton and W. A. Paton, Jr., Corporation Accounts and Statements, New York: The MacMillan Company, p. 263.

In practice most schemes of cash revenue accounting are unsatisfactory in that they fail to provide for a clear-cut reporting of the total amount of revenue on a cash basis and also fail to provide for an assignment of all operating costs to revenue in a reasonable manner.¹

Production Basis

The sale as the basis of revenue recognition is generally accepted, and, as mentioned before, even though revenue is earned by the entire process of production the sale represents the most expedient point for recognition of the accruing revenue. Although the sale is normally the most logical basis for the recognition of revenue it should not be inferred that revenue is earned exclusively as a consequence of the selling function. There are certain conditions under which a departure from the sale basis can be advanced. The recognition of revenue prior to sale and delivery of a product sometimes replaces the more conservative method of recognition at the point of sale. In some industries a ready market for the goods produced is always available. Here they do not have to keep large inventories, and unsold goods are kept only for speculative purposes. Under such circumstances, it is reasonable to recognize the realization of revenue at the completion of the productive process rather than to postpone its recognition until the sale has actually been effected.

When production is based on advance orders and the price is predetermined it is possible to derive revenue figures as the cost accumulates during the process of work. "Defining production in the narrower sense of the process of marketing the product, the view that revenue accrues throughout the process takes on a considerable stature."²

¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1955, p. 58.

²W. A. Paton and W. A. Paton, Jr., Corporation Accounts and Standards, New York: The MacMillan Company, 1955, p. 289.

When a new corporation is promoted, from its initial organization to the final stage of production, its primary objective is to earn revenue. Each and every phase of activities should contribute to the end results of earning revenue and increasing net earnings. Once the corporation is formed, the preparatory activities of fund administration and plant construction can be regarded generally as pre-revenue stages. Of course to draw a sharp line between the pre-revenue stage and the revenue earning process is sometimes difficult.

Usually the production basis is more convenient and suitable where the work is done under definite contracts, and has to cover some specific job like construction of buildings, roads, ships or locomotives. Jobs such as these sometimes require considerable periods of time. It is not advisable to wait until the job is completed and accepted by the customer for revenue recognition. Thus, income can be recognized in the most practical way on the basis of work done, where you accrue income on the percentage of completion. The relation between cost incurred until date of recognition and total estimated costs should be considered to gauge the financial progress. "Accounting for revenues on the basis of completed contracts meets the fundamental concept that revenue realization should be evidenced by a decisive stage or step in the flow of business activity."¹

Production in Extractive Lines - Accretion

The exception to revenue recognition in terms of delivery and title passing is legally recognized in extractive industries where the product is an agricultural, petroleum, or any mining one. The income in these cases can be

¹Rufus Wixon, Editor, Accountant's Handbook, New York: The Ronald Press Company, 1961, p. 4-5.

accounted for in terms of physical output instead of sale or other terms. In these kinds of industries, technical production rather than selling is the dominant activity and sale is just a course following production. The income may be recognized and measured before the product is sold.

An obvious example can be found in gold mining. The final product, gold, is exchangeable and has a definite selling value. The market is wide and is relatively definite in price. As soon as the gold is extracted and converted to its finished form of bars or dust and ready to be shipped, the value or gross revenue can be easily estimated. The sale is a nominal incident in this case and of no consequence as an income determinant. Sale is always assumed to be without effort and with standard price, and thus it is advisable to recognize revenue when the product is complete and not when the actual sale occurs.

The Treasury Department accepts the valuation method where the inventory is priced at selling value less cost yet to be incurred. Farmers are allowed to value unsold goods according to the so-called "farm price method". In sugar refining, copper mining, and the production of other staple products similar valuation methods are accepted. However, these methods are not completely recognized in accounting practice. The Treasury Department has accepted these methods simply to meet the difficulty of determining proper costs for farm inventories and other inventories. This does not prevent anyone from using the valuation method where it is possible. This acceptance shows that there is some basis in particular cases for recognizing income as earned prior to sale.

Sometimes it is suggested that work in process in extractive industries should be valued on this same basis of selling value less estimated costs yet

to be incurred. As mentioned before, the sale is only a last step in the production process, and the value of the product is the result of the entire production process. "Delivery and transfer of title is a mere formality and under the circumstances would not provide as meaningful a basis for income recognition as production."¹ On this basis it is suggested that an appropriate percentage of margin (of income accrual) be included in the value of the unfinished product which is "work in process". This view will introduce uncertainty in many cases for once the goods are finished and ready to sell, a length of time may elapse before the actual sale takes place. Also, it should be taken into consideration that "work in process" has no realizable market, and therefore has no justifiable value. This view of applying selling value is suitable and reasonable only in contract production where income is recorded upon the completion of the job. The normal time required to finish a unit or job may be of such length that an unreasonable distribution of earnings between accounting periods would result. Usually in extractive industries the period of production is not so long, and this method cannot be justified on the basis of contract production.

In some case, such as timber growing, farming or liquor production, it is reasonable and justifiable to recognize the accrual of income in advance of completion. Of course this recognition should be only to the extent of the effective increase in value resulting from growth. In liquor industries the increase in realizable value during the period of aging is a part of the final selling price. A similar case is that of farm inventories where the farmer recognizes the natural increase in his herd by using the "farm price method" some time before the animals are marketed. These processes are the

¹H. A. Finney and H. E. Miller, Principles of Accounting, New York: Prentice-Hall, Incorporated, 1951, p. 602.

same as those of the valuation of "work in process" in terms of a percentage of selling value. "There is no serious objection to the reporting of the increase from time to time, if it is carefully estimated and labeled in such fashion as not to be confused with realized income."¹

The adoption of this method, where inventories are valued on the basis of selling value less costs yet to be incurred, does not involve recording the precise amount which is received when the sale is actually effected. This occurs because the actual costs may differ from the estimates of costs yet to be incurred. There might also be some change in the market prices on which the selling value was determined. Such cost differences or market fluctuations will result in additional gain or loss in the succeeding period. It is necessary to point out, however, that the use of this method does not necessarily mean avoidance or replacement of the conventional sale basis as the principal income determinant. Revenue from goods which are produced and sold within the fiscal period should be recognized in terms of sales. The basis of selling value less costs yet to be incurred is used only as a supplementary basis to determine the revenue from the current output which remains unsold.

An alternative to this method which can be used in cases such as long term construction is that of changing the fiscal period from a conventional year basis to the period of time required to carry out the entire process of work. If this is done, progress can be recognized in terms of cost accumulation and the question of recognition of revenue in advance of sale can be avoided.

¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1955, p. 53.

Appreciation As the Basis of Revenue Recognition

The treatment of appreciation of property is a perplexing problem for the accounting profession. Appreciation is an enhancement of property values which can occur due to scarcity in replaceable equipment, increase in productivity or technological improvements. "Appreciation represents the excess of the replacement value of property over its cost less depreciation or other decremental factors."¹ The upward revision of property costs due to purely monetary fluctuations apparently does not represent a source of income, it is merely a conversion of original cost to its equivalence expressed in current dollars. The increase in money value of capital assets cannot be considered as income in the real sense, because assets are not realizable except at the cost of discontinuing of business, and discontinuing of business is against the fundamental postulate of continuity and permanence.

Whether appreciation represents recognizable income or not, there are arguments for and against it. From one point of view it does not represent recognizable income whatsoever. It is just an enhancement of market value and so cannot measure the progress of operating activity of the enterprise.

Appreciation is not a result of any operating activity for which the enterprise is established. Further, it does not provide any liquid resources which can be used to pay the obligations or expenses of the enterprise. Only in rare instances does appreciation indirectly furnish liquid resources, e.g., land appreciation may result in borrowing a greater amount of funds. But this cannot be considered as realization or recognition of income. Insofar as appreciation reflects a change in the general price level, no true income is

¹Morton Backer, Handbook of Modern Accounting Theory, New York: Prentice Hall, Inc., 1955, p. 243.

involved at any stage. But, if it is assumed that gains arising through the sale of appreciated property are to be reported as realized income, appreciation may be described as a form of unrealized income.

Sometimes the appreciation of depreciable assets is said to be "realized". The reason given to support this statement is that the depreciation of appreciated value is charged to revenue that is operating cost is charged with an amount in excess of dollar cost incurred. But this statement is misleading.

The total volume of revenue is in no way changed by the technical process of loading operating costs with an amount in excess of dollar cost incurred. The appreciation "realized" by this process is rather a credit adjustment or correction of operating net that is required because of the inclusion in costs of charges not actually incurred.¹

It is an obvious fact that as far as earnings are concerned, appreciation is at the most nothing more than unrealized income, and it has little or no legal basis as income. Statutory concepts in general do not recognize mere enhancement as income. Nevertheless, it should be noted that the conservative opinions with respect to this matter do not have very solid grounds, and at least in some special cases there are legitimate reasons for giving particular accounting expression to appreciation.

Monetary fluctuations may give rise to actual income, and the typical illustration for this is readily marketable securities. When a readily saleable security (a stock or bond) has appreciated, income can be said to be realized even if a sale is not actually effected. Similarly, if the value of the security has fallen, a loss has been suffered. If the proceeds from these securities are reinvested in the same kind of property the earnings are as recognizable as earnings which have been realized by any other kind of sale.

¹W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards, American Accounting Association, 1955, p. 63.

There is a substantial basis for the recognition of income when an increase in value comes about due to the sale of original assets, the purchase of the same kind of property at a higher price, and the reinvestment of the proceeds. If this is true, there is ground for recognizing any appreciation which consists of a bonafide increase in value in reasonably liquid assets. Here, appreciation is quite substantially a basis for recognition of income. It should be pointed out that the Treasury Department does not permit the layman, who invests in securities, to treat appreciation as taxable income, only banks, brokers, and regular dealers in securities are permitted to value securities on hand at market value, provided they make it a consistent practice. Evidently, permission to use this method of valuation involves the use of both appreciation and decline in value as supplementary evidences of income or loss.

Appreciation of plant assets is usually determined by the increase in their value and it is the appraiser's estimate of value that counts. This estimate is often a figure of very doubtful validity. The assets as mentioned before are held for use rather than sale, and therefore the appreciation of plant assets is of dubious significance. It is of still more doubtful character as an income determinant. The same situation prevails for land. As soon as land is bought, it is removed from the market. But, if the land is bought for the purpose of sale and is highly marketable, its genuine appreciation has significance concerning income. However, to recognize appreciation as realized income does not necessarily mean that income from other resources should be identified with it.

A theoretical basis for the recognition of revenue seemingly exists for genuine appreciation in property values, but the accountant has been compelled for practical reasons not to associate appreciation with realization of reve-

nue. Appreciation does not conform to acceptable criteria for revenue recognition as it does not emerge from an independent transaction.

The usual arguments against appreciation can be summarized as follows. It is not subject to precise measurement as it is based on estimates. It does not bring about any increase in liquid funds. It represents an adjustment of capital rather than true income. An increase in the market value of property intended for sale may be offset by a later decline and hence may never be realized. "Reporting of appreciation in the income statement, even if the item were clearly labeled and excluded from operating results, would not be conservative practice."¹

The arguments which are to be considered are the recording of appreciation is not a conservative practice and is not legally accepted.

Finally, it is not always possible to distinguish actual and superficial increases in value. Aside from monetary fluctuations, the increased replacement cost of property may also be due to functional changes that will actually produce a more effective operating performance or prolong the assets useful life.

¹W. A. Paton and W. A. Paton, Jr., Corporation Accounts and Statements, New York: The MacMillan Company, 1955, p. 298.

REVENUES OTHER THAN INCOME

It is necessary to distinguish revenues resulting from activities other than normal operations and revenues which are not applicable to the current fiscal period.

Non-Operating Revenues

The gains which arise due to the sale of fixed assets or which are more or less fortuitous should be distinguished from gains arising through operating activities. If the effects of these gains are buried in the operating gains, misinterpretation may result. Gains resulting from the sale of fixed assets do not represent true income and should not be represented or reported in the income statement. The reason for treating capital gains separately is that such gains are a part of capital funds and should neither be treated as income nor distributed as income. The capital gain accrues over a number of years, and should not be considered earned in the period in which it is realized. These gains are an adjustment of past profits and surplus accounts. The gains from sales of fixed assets do not represent real income in any period and should not be credited to current earnings or retained earnings.

Donations or gifts are also capital gains, and the effect of these should be excluded from both current income and accumulated retained earnings. The gains of this kind should be treated by setting up a special account. However, this does not apply to incidental gifts of small amounts; such items may be included in "miscellaneous revenues."

Deferred Revenue

The term "deferred revenue" is usually applied to balances representing amounts collected from customers or clients in advance of the delivery of

goods or the furnishing of services. Such balances are liabilities, which are peculiar and are retired through the furnishing of the product or service as agreed upon, and not by cash payment. Typical examples can be found in the transportation industry where the carrier is paid in advance; in lease contracts where rent is paid in advance by the lessee; insurance companies where premiums are paid in advance, etc... In most of these types of cases the revenue is not really earned until the services or products have been delivered. So, first, when money is received, a liability should be set up for the amount of the payment which is received in advance, and later, this liability is liquidated when the product is furnished to the customer. At this point revenue should be recognized.

It should be pointed out that a cash sale, made in advance of delivery to the customer, is different from deferred revenue. The passing of title is a determinant of income realized whereas the delivery is not. In some cases, title passes before delivery and revenue may be recognized. Usually no harm is done by treating a payment in advance as a cash sale, if the interval between the payment and the completion of the transaction is relatively short.

MATCHING COSTS AND REVENUE

A cost is an acquisition price. Accountants have to ascertain and record the costs incurred, classify them in relation to operating activities, and assign them to revenue. Every cost is a charge to revenue. If a business enterprise is of short duration then all costs incurred can be immediately assigned to realized revenue. But if a business enterprise has a long life, and it is a continuing process, division of the costs incurred between present and future is necessary to determine periodic income. "..., net income is determined periodically by matching revenue with the transitory costs and expenses of producing that revenue."¹ The income statement absorbs all costs applicable to the current period. The balance sheet carries forward unamortized acquisition prices, and exhibits cost incurred in the current period which is applicable to future years. An ideal treatment is for costs which are associated with the revenue of a particular period to be matched with revenue of the same period. This matching of costs and revenue is an important step from the viewpoint of periodic income accounting. Matching costs and revenues requires accuracy and special techniques. To record the costs incurred is not difficult; careful observation and procedure takes care of this, but to record the costs as charges to revenue requires prudent estimate and judgment.

Usually in every business enterprise, management tries to associate direct labor costs, cost of merchandise and raw materials with particular operations and different departments. For the most part, this job is done satisfactorily, but when the questions of indirect labor and overhead costs

¹A. W. Holmes, G. P. Maynard, J. D. Edwards and R. A. Meier, Intermediate Accounting, Richard D. Irwin, Inc., 1958, p. 643.

arise, the difficulties seem to be inherent. These costs should be associated with primary activities of the enterprise, and then with the periodic revenues which is a difficult process, and is usually done in various crude ways, although mostly on a rough percentage basis. Sometimes administrative costs, marketing costs, legal service charges, and cost of insurance are not associated at all with any productive activity, and are charged directly to expense as they are incurred. The main problem in matching costs and revenues is finding satisfactory bases of association or relationship between two. The essential test of relationship or association is not physical measurement, but reasonableness according to the prevalent conditions.

There are practical difficulties in the matching of costs and revenues, but classifying costs by the divisions of technical production and distribution, and then applying budgeting and standard costs solves the problem in part.

It is important to note that matching does not imply cancellation. Sometimes costs related to the sale are deducted from sales and only the remaining balance is shown in the accounts. This is an unacceptable practice. The costs actually incurred should be recorded as costs, and the payments received for the product should be reported as revenue.

LOSSES AND CURRENT INCOME

In a period of organization and construction of a plant, a business beginning its operations incurs preliminary expenses. These expenditures are paid out of the capital investment. For the time being, there is no revenue producing activity. Therefore, these expenses should be charged to losses or an asset account. A similar case develops when a building is destroyed by fire or storm, and there is no insurance. It is a loss, and should not be charged to current income.

When a loss is incurred during the operational activities of a business enterprise, it should be charged either to surplus or capital accounts, and should not be included in operating charges. Sometimes losses are shown as deferred charges to revenue which is an incorrect accounting method. This treatment results in overstatement of assets and inflation of expenses in subsequent years. It is difficult to make a distinction between asset balances and losses, and also between expense and loss. It is practical and reasonable to assume that all current expenditures which do not arise through abnormal circumstances should be treated as costs of producing revenue. However, if extraordinary damage is suffered or a loss incurred which in no way contributes to the production of revenue it should be treated as a charge to surplus or capital. Losses which are recovered through insurance should be treated as true revenue charges. Finally, it should be noted that losses are allowable deductions from income for income tax purposes.

MAINTENANCE AND IMPROVEMENT

In determining periodic amounts of income, maintenance and improvement are special problems and require special treatment. Maintenance costs are charged to current revenue while improvements should be charged to the property account. Sometimes improvements are charged to current revenue, but this results in the overstatement of expense and understatement of net earnings. The reverse occurs when maintenance expenses are treated as improvement costs.

Maintenance costs are necessary to keep machinery in operating condition. Cleaning, adjustment, overhauling, and repairs which are unavoidable make up the maintenance expense. Improvement charges, on the other hand, represent technical refinement or additions usually affecting property more than maintenance. The machinery, etc., is being more than maintained. Actual extension of buildings or the installation of an oil burning device in a furnace are obvious examples of improvements.

If improvement and maintenance take place at the same time, the actual improvement should be reasonably assigned to the property account, and the rest of the cost should be charged to current revenue or expense.

"The Federal courts early recognized the accounting practice of capitalizing an improvement only to the extent of the difference between the cost of the new asset and the book value of the old."¹

¹Sidney I. Simon, "How Far Do The Courts Go In Upholding Accounting Principles For Determining Income," The Journal of Accountancy, December, 1953, p. 692.

RECONSTRUCTION AND REHABILITATION

The costs of reconstruction and rehabilitation represent additions to property in generally considerable measure. Their character is such that their true financial effect is not always apparent, and therefore it is not surprising that they are treated as expenses or losses and charged to current revenue. Although this is not the proper way of handling them, they are treated as such because of conservatism, rather than unsound analysis.

When property is acquired in rundown condition and rehabilitation is necessary to put the property in operating condition, all costs incurred for such rehabilitation are chargeable to the appropriate asset account only. These costs are capital expenditures and not ordinary repairs. Hence, they should not be treated as current revenue deductions. Once this rehabilitation program is completed, the cost to keep up the property should not be confused with the rehabilitation costs and must be carefully divided into maintenance and improvement charges. In other words, as soon as property has been put into a normal operating condition, all cost incurred should be excluded from the asset accounts.

A case of reconstruction occurs when a property, acquired or constructed by the same enterprise, needs heavy reconstruction work to put it back into normal operating condition. It is generally the tendency of management to treat such costs as current maintenance charges. The labor operation staff costs and sometimes material costs which contribute to property values are included among regular operating expenses. This is improper treatment. All such costs should be charged to a property account and separated from operating charges. When a benefit is derived from such outlays for reconstruction which is of short duration, the cost involved should be charged to operations over a correspondingly short period.

CONCLUSION

It is apparent that the accounting profession has developed an elaborate theoretical structure for measuring business income. The accountant's measurement of income is primarily restricted to the business entity and is based upon transactions that have already transpired.

This report contains a presentation and evaluation of accounting concepts underlying the determination of business income. The concept of income has been defined and elucidated at the beginning of this report, and the importance of income has also been stressed. Net income of an enterprise is the change in its net assets arising out of the excess or deficiency of revenue compared with related expired costs, and other gains arising from sales or conversion of assets. The determination of income is significant in any business enterprise because it measures the efficiency of management; it helps in determining the dividend policy; and it provides a guide to investment policy. The Treasury Department accepts income as a good measure of taxable capacity.

The important concepts: revenue, cost and expired cost have been explained. When a cost is chargeable against the revenue of the current fiscal period, it becomes an expense. When a cost is chargeable to retained income or other income, it becomes a loss. Revenue represents the flow of funds from clients to the enterprise for the marketed product.

The sale, cash, production and appreciation, four important bases for the recognition of revenue, have been discussed. The sale is the most logical and conventional basis for recognition of revenue, and is generally accepted by the accounting profession. Under some conditions a departure from the conventional sale basis is necessary. Revenue should be evidenced

and supported by new and tangible assets, preferably cash or near cash, and the sale is a completed transaction constituting a physical transfer of a product in exchange for cash or other assets.

Income does not represent cash, and cash does not provide a proper basis for revenue recognition. Still in enterprises furnishing services, the cash basis is reasonably acceptable, and sometimes in installment selling, the collection basis is preferable and more conservative.

The production basis is more convenient where the work is done under contract and in extractive industries. The underlying idea favoring this basis is giving due importance to the entire process of production instead of only the final selling point.

Appreciation is not a proper basis as it is not subject to precise measurement. It is based on estimates and it does not bring any increase in liquid funds. The recording of appreciation is not a conservative practice and generally is not accepted by law.

As various bases have been explained, the matching of costs and revenue in a particular accounting period was given due importance. Peculiar treatment of special problems in income accounting has been discussed. The stream of expenditure incurred during the current accounting period should be divided into capital expenditures and revenue expenditures. Different examples have been given to illustrate this.

It is necessary to mention here that some modification of accounting principles has occurred, but there are indications of further refinements which can be expected in the future. The scope and procedure of determining the amount of net income is quite wide and there are quite a few controversial points on which businessmen and accountants do not agree. This report tries

to throw light on the subject but there are different points which can be considered to cover the problem entirely.

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INCOME AND ITS DETERMINATION

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Income is an important index of economic progress, and its determination is the principle objective in today's advancing field of accounting. The reports published by business enterprises, are the accountant's contribution to society. These reports enable management to evaluate its past accomplishments and to plan its future activities. This report has attempted to elucidate the general principles and procedures in determining the amount of net income. It is more or less a framework. Within this framework there exists a tremendous area for new ideas and views as well as techniques.

The amount of determined income is of marked significance to the owners, management group, labor organizations and creditors of the enterprise. The basic objective of any organization is to earn revenue. The procedure of earning revenue involves cost and expense and the net amount determined after proper deductions is income.

The critical point of determining the amount of net income is when to recognize revenue? There are four different bases which can be used as for the realization of revenue. Among these four bases; sale, production, cash and appreciation, the generally accepted and conservative practice is to recognize revenue on the sale basis.

The discussion of the previous mentioned procedures and techniques ended by illustrating special problems which should be considered before determining the amount of net income. It is hoped this report represents different practical techniques which are generally accepted by today's businessmen and accountants.